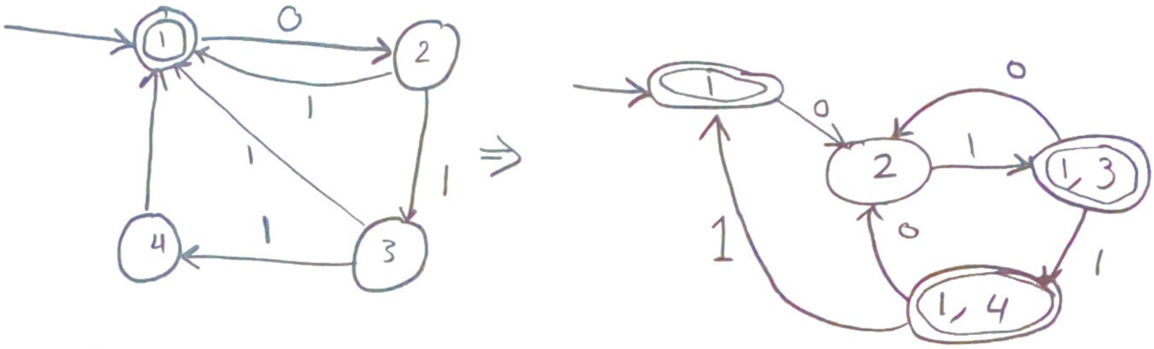
Compilers

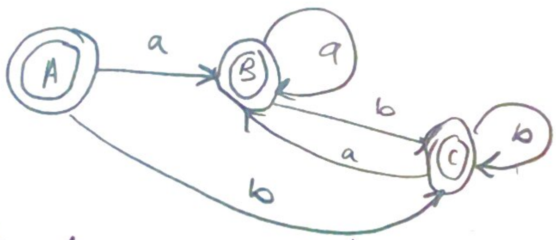
2/11/2015 الاثنين م.حي سكشن [4]

Sheet 3

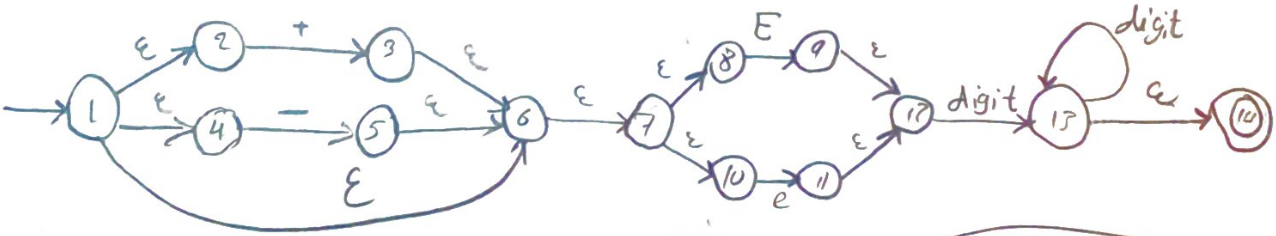
[4] 01, 011, 0111

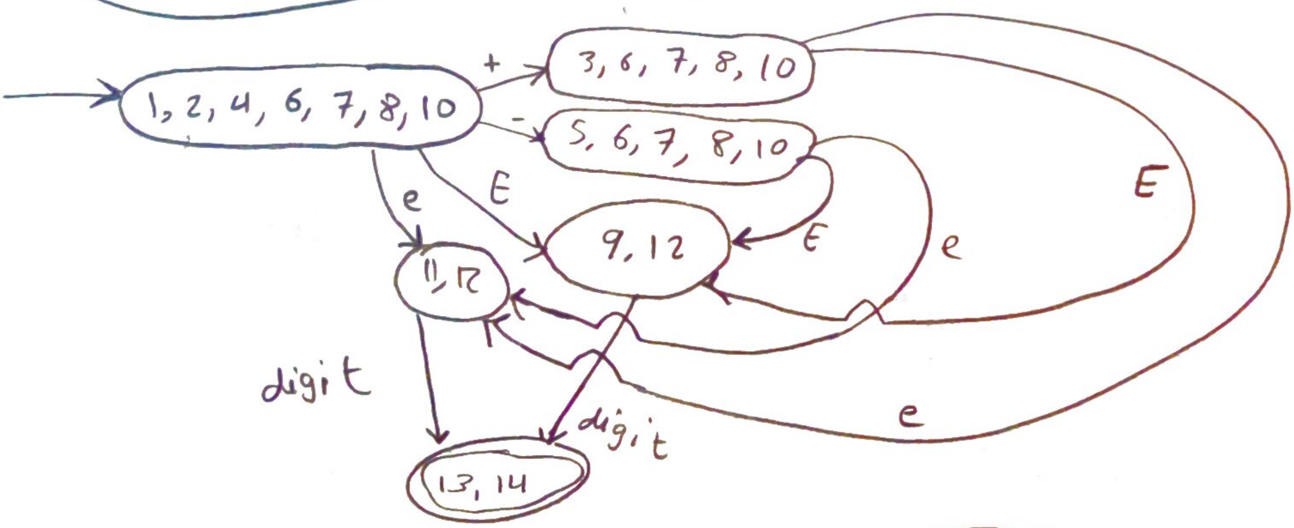


[5] $(a+b)^*$, $(a^*+b^*)^*$, $((\varepsilon+a)b^*)^*$



[6] Exponent = $(+ + - + \varepsilon).(E+e).(digit)^+$

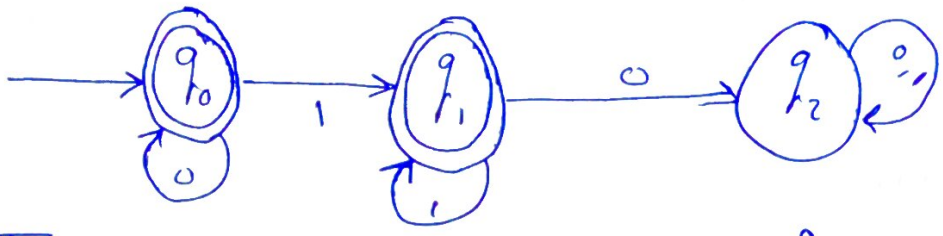




error ← dead state

هنا نحط كل ال inputs الغير موجودة في المرحلة الحالية

7



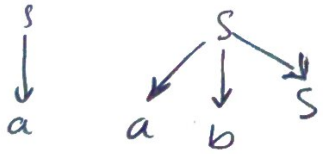
The language of All strings from the given alphabet (0,1) that contains zero or more number of 0's followed by zero or more number of 1's

Regex = $0^* 1^*$

→ Sheet 4 ←

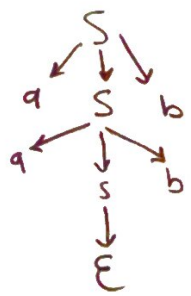
1. Terminals, Non-Terminals - Production, Starting Symbol
2. Productions are the rules for replacing a single non-terminal with a string of terminals and non terminals
3. A string that can be obtained by more than one tree result in Ambiguity
4. Scanning matches input to regular expressions to produce terminals, Parsing matches terminals to grammers to create parse tree.
5.

A) $S \rightarrow abs \mid a$



$(ab)^* a$

B) $S \rightarrow aSb \mid \varepsilon$

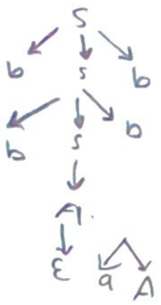


$a^* \quad b^*$

c) $S \rightarrow bSb \mid A$

$A \rightarrow aA \mid \varepsilon$

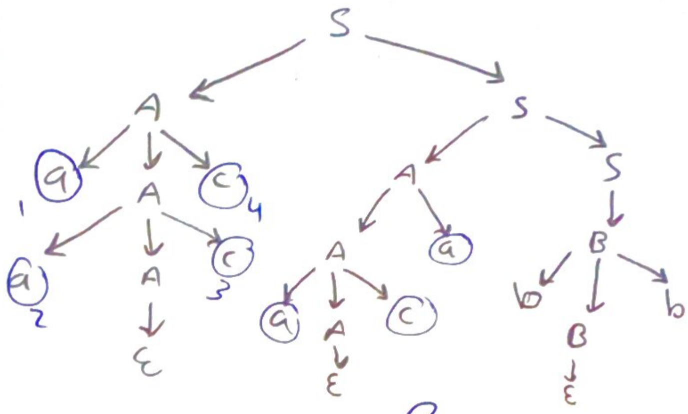
$b^* a^* b^*$



D) $S \rightarrow AS \mid B$

$A \rightarrow aAc \mid Aa \mid \varepsilon$

$B \rightarrow bBb \mid \varepsilon$



strings of A's and C's with same or fewer C's than A's, and no prefix has more C's than A's followed by even number of B's

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e) $S \rightarrow S$ and $S \mid S$ or $S \mid (S) \mid$ true $\mid$ false

any boolean expression

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6 Left recursive $S \rightarrow SA$ (left→)

d, e are left recursive

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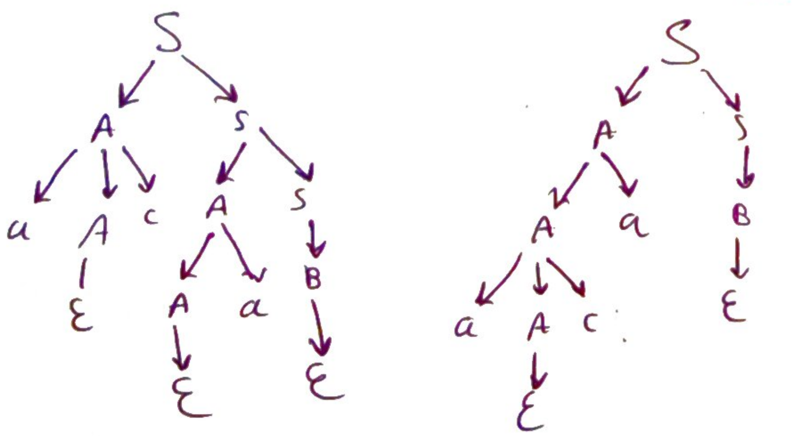
7 (d) is ambiguous هنا بسألنا ، ارسم اثنين Parsing tree لطلعوا نفس ال String



(e) is ambiguous

True and True or True